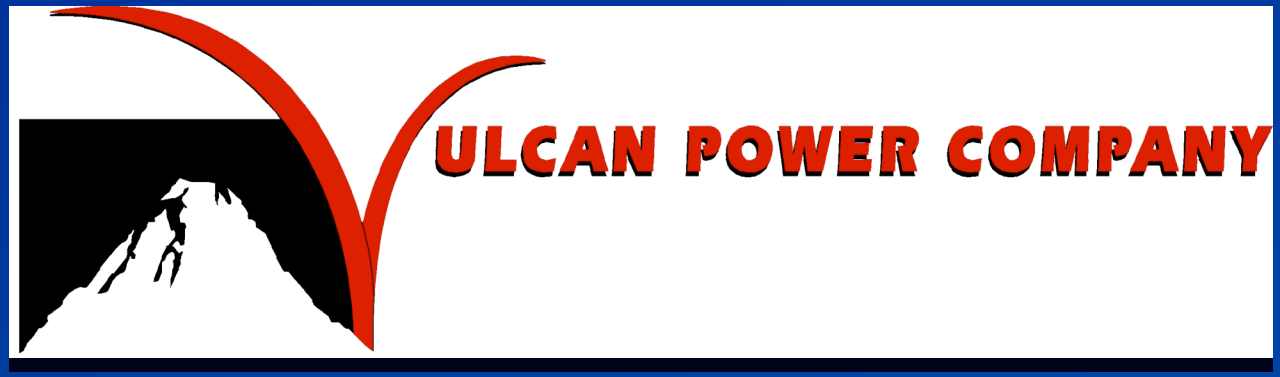
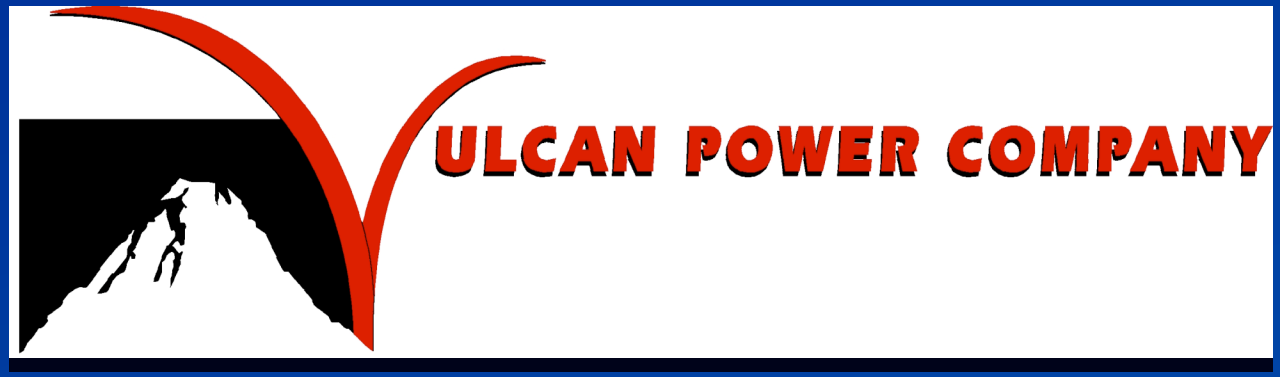


2005 California Geothermal Summit

"Bringing New Projects To Market"

California Energy Commission

June 9, 2005



New Geothermal Supplies For California

California
Nevada
Oregon

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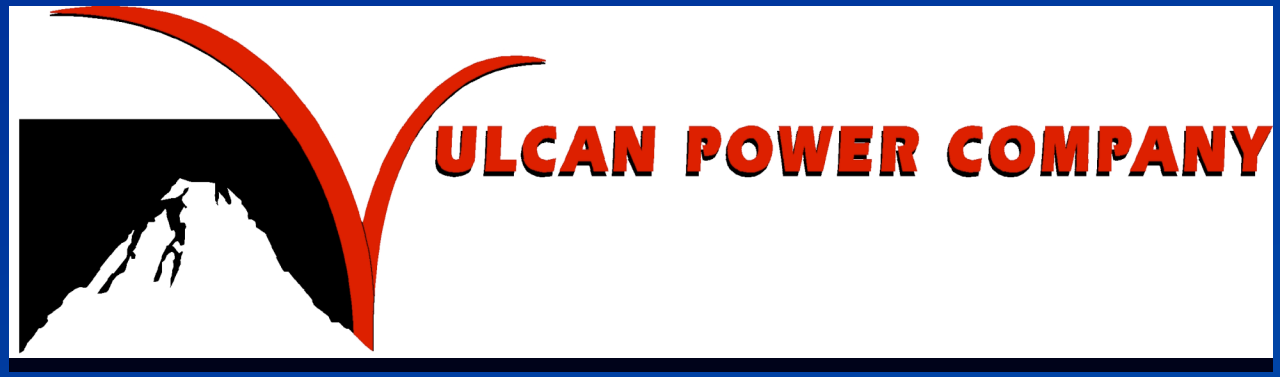
Potential New Geothermal In California

	60 MW
	185 MW
	200 MW
	220 MW
	500 MW
	2,300 MW

Source: Industry Estimates



The Company

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Projects and Markets

- Largest geothermal property position in America: 120,000 acres.
- Advanced properties up to 1,000 MW. Equal to about 3,000 MW of wind average annual output.
- Sites in California, Nevada and Oregon can serve California.
- Geothermal growing again.
- Strong interest from financial markets, good projects with PPAs will get funded, both larger companies and smaller.

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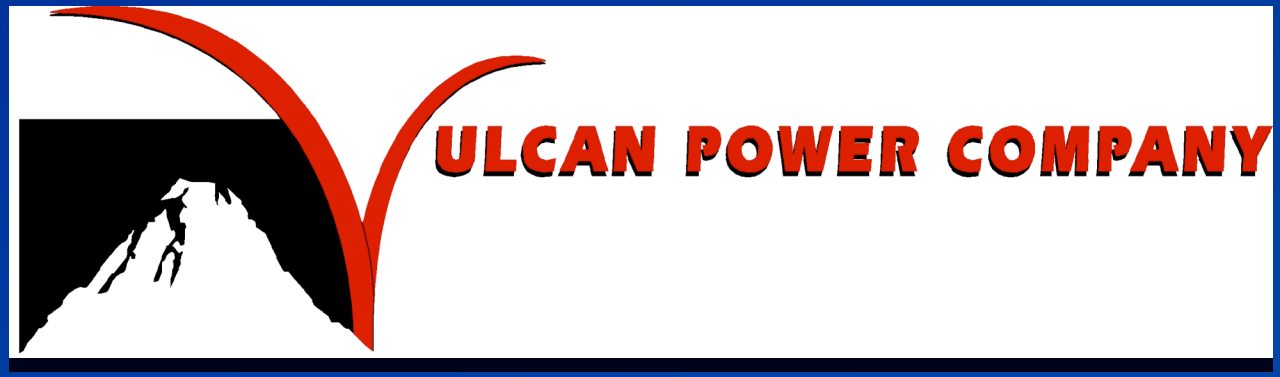
Company Overview

Unique 15 Year Old Geothermal Company

- Mgmt Team: Owners/Executives over 700 MW Geothermal Developed
- Geo Properties: Largest in the nation 120,000 acres
- Market Creation: A leader in passage of 4,000 MW RPS laws
  (Including RPS impacts on municipalities)
- PPA Contracts Status: 120 MW executed and 260 MW in process
  380 MW buildout to 2011 with investors/partners
  Processing about 9% RPS market share
- Project Partners: Hiram "Tony" Bingham/Energy Investors Fund Group
  Other entities seeking participation
- Financing: Large scale financings in negotiation
  Private equity and project equity funds



"Other Nuts and Bolts"
And
Wires and Poles

Fix Transmission Grid Constraints

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Leasing and Permits Affecting California

Leasing Nevada: Progress: Another 15,000 acres stips out, Issuance soon. Various parties still awaiting over 100,000 acres. More issuances planned in 2005.

Leasing California: Very, very poor record. Zero new sales in 10 years. Actually sent lease funds back in 2004. Direct violation of pledge of Secretary of Interior. Must improve now.

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Transmission Cost Comparison
Known Wind and Regional Geothermal Projects

Project Name	Power Type	Dollars in Millions				Capacity (%)	Cost Per Avg MW
		Projects		Cumulative			
		Cost	MW	Cost	MW		
1. Techachapi:							
Phase 1	Wind	$207	700	$207	700	35%	$845,000
Phase 2	Wind	$281	900	$488	1600	35%	$871,000
Phase 3	Wind	$66	750	$554	2350	35%	$674,000
2. North of Cottonwood:							
Phase 1	Geo	$1	45	$1	45	95%	$22,200
Phase 2	Geo	$45	240	$45	240	95%	$197,400
3. North of Lugo:							
Phase 1	Geo	$2.5	60	$2.5	60	95%	$43,900
Phase 2 (1)	Geo	$328	345	$328	345	95%	$1,000,000
PDCI Tap:							
Phase 3A	Geo	$100	500	$100	500	95%	$210,000
Phase 3B	Geo	$50 (est)	500	$150	1000	95%	$158,000
Note: (1) May be able to stage 150 MW at lower cost.							

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North of Round Mountain-COI Developers
Vulcan – Calpine – Amp Projects to COI

DEVELOPERS:

Vulcan: Newberry Volcano, Oregon Project to LaPine Sub

1) California Oregon Intertie (South to COI to NP 15)

2) Pacific DC Intertie (North to Celilo to Sylmar/LA SP15)

Calpine: Glass Mountain

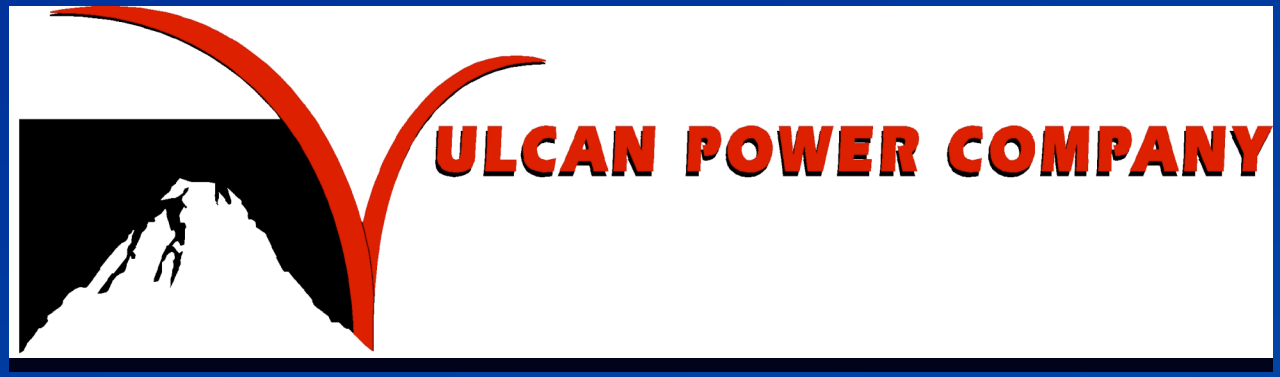
1) BPA to COI to Northwest

2) BPA to COI to NP 15 potential

Amps: Surprise Valley (Reportedly PPA with CDWP)(1)

SV COOP to BPA to COI to NP 15

Note: (1) Vulcan believes PPA signed with CDWR. Uncertain if accurate.



PDCI Green Tap
Near Term Project

500 MW of Cost Effective
Geothermal Baseload For California

North of Lugo Project: Phase II
Multiple Developers To Control Sub: (To 345 MW)

Electric Transmission Plan for Renewable Resources in California

CALIFORNIA PUBLIC UTILITIES COMMISSION

Report
To the
Legislature

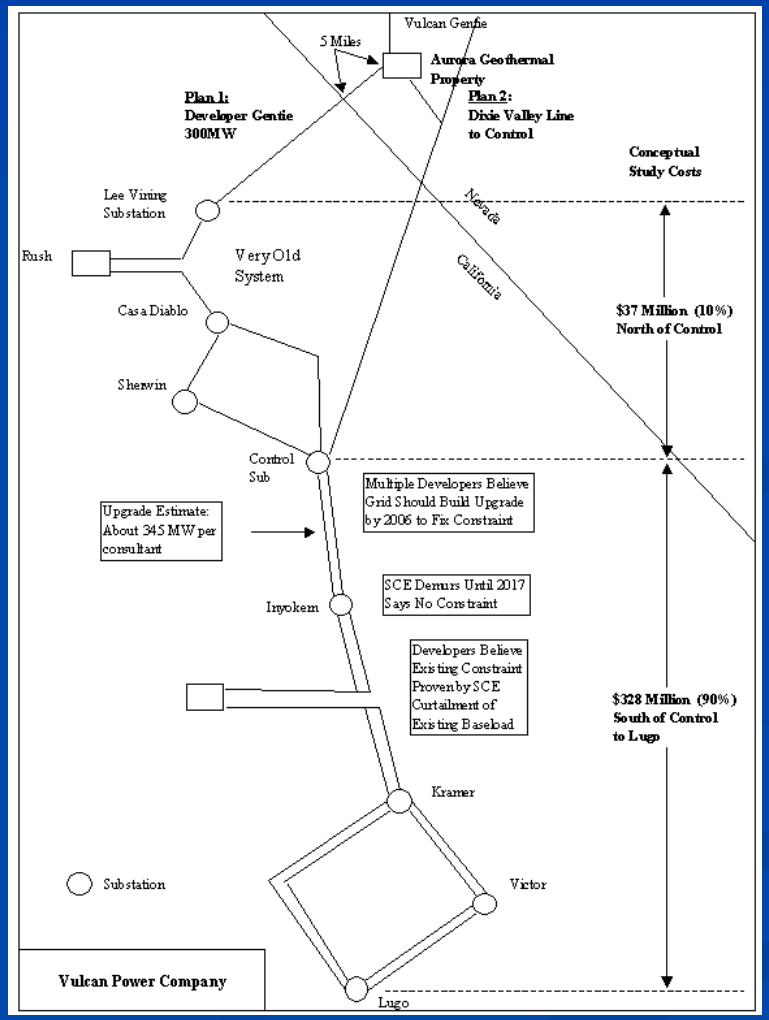
SB 1038/Public Utilities Code Section 383.6:

Electric Transmission Plan for

Renewable Resources in California

Prepared by the CPUC Energy Division

December 1, 2003



Simplified Summary of SCE concept study results in Cal Renewables Transmission Plan

Study Results

Est cost of max output of North of Lugo upgrade is $328 million for 345 MW. At 95% capacity equals $1 million per avg MW.

Verbal Comments

Detailed SIS may find upgrade/mgmt designs to stage project adding 150 MW (+) initially at lower cost.

Next Steps

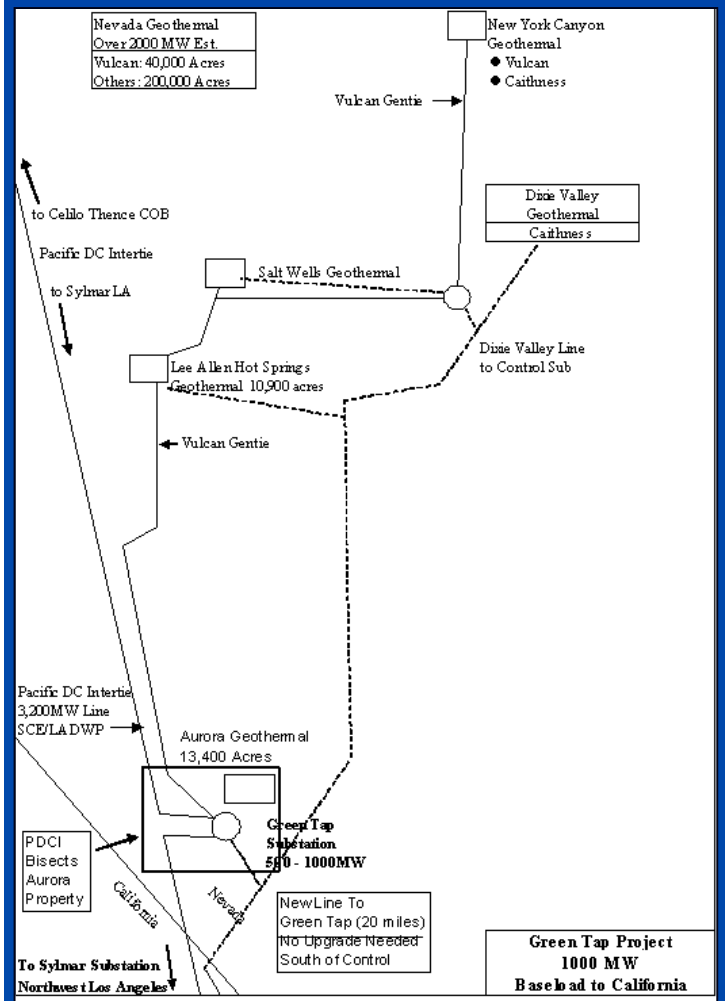
(1) SIS now underway at 60 MW level.

(2) New SIS needed to study stage up.

(3) Compare SIS 2

Instead of Costly Upgrade North of Lugo PDCI Aurora Green Tap: Multiple Developers

From: "Electric Transmission Plan for Renewable Resources in California", Dec, 2003



(PDCI owned 50/50 in Nev-Cal by SCE/LADWP and by BPA in Oregon.)

Letter filed with CPUC renewable transmission docket ALJ from DC transmission expert for the PIER funded PDCI study for Munis

ELECTRANIX
Electranix Corporation
107 – 865 Waverley St.,
Winnipeg, Manitoba, R3T 5P4, Canada
T +1 204 953 1832 F +1 204 953 1839
daw@electranix.com www.electranix.com

4 March, 2004 File: A300

Charlotte TerKeurst,
Administrative Law Judge,
California PUC,
505 Van Ness Ave.,
San Francisco, CA 94102

RE: TRANSMISSION CONSTRAINTS DOCUMENT No. 00-11-001
PACIFIC INTERTIE LINE TAP

With reference to the PDCI Green Tap Project of the Vulcan Power Company, there is consideration for development of geothermal electric power generation near La Pine substation in southern Oregon and in western Nevada.

Vulcan proposes connecting to the existing ac transmission system in Oregon, and back-feeding the geothermal energy from near La Pine to the Celilo terminal of the Pacific DC Intertie (PDCI) for transmission to southern California over the PDCI. This is certainly a technical possibility, with the amount of power that could be transmitted subject to study.

The other proposal is to interconnect to the PDCI to deliver geothermal power to southern California from western Nevada. This would convert the PDCI into a three terminal dc transmission line. This too is technically feasible based on the experience of the three terminal, 500 kV dc transmission line that has been operating satisfactorily since 1990 from James Bay in northern Quebec to near Boston.

The purchase cost of adding a 500 MW interconnection to the PDCI is approximately US$ 100 million and for a 1000 MW interconnection would be approximately US$ 150 million in current dollars.

For further information on this matter, please do not hesitate to contact me.

Yours truly,

Dennis Woodford

Dennis Woodford, P.Eng.,
President.

CONCLUSIONS:

Letter states: "Green Tap on Aurora property is technically and economically feasible."

Est. Cost: 500 MW @ $ 100 Million which is $210,000 per avg MW

Est. Cost: 1,000 MW @ less than about $160,000 per avg MW

Much Better Than Phase II Lugo and Tehachapi I-III

Black Story: Proposed Sempra Cal Border Coal Plant

1.) Years ago SPPC looked at PDCI Tap near Reno but project not advanced due to project scale, vibrant NW spill hydro supplies and derating to accomplish terminal repairs.

2.) Some or all repairs made but NW hydro for California much reduced.

3.) Substantial capacity available on PDCI now. Apparently Sempra thinks 1,450 MW (47%).

4.) Vulcan and Jon Wellinghoff, former Nevada state PUC Consumer Advocate, investigated three years ago and reported to the Nevada legislature potential clean industry growth for Nevada: exporting more geothermal to California via PDCI Tap near its Nev-Cal border crossing.

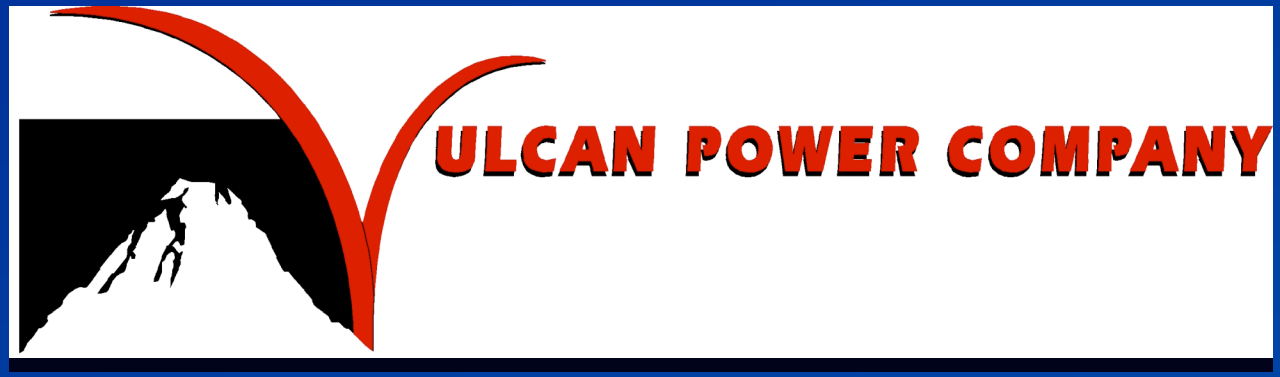
Black Story: Proposed Sempra Cal Border Coal Plant

5.) Jon Wellinghoff served on LADWP "Renewables Group" panel committee when they had an active RFQ I process. He suggested they seek CEC PIER study funds to evaluate PDCI renewables Tap.

6.) Vulcan has not been able to obtain a final copy of that 3 year old $ 6 million study funded with DOE/California citizen funds. Numerous discussions with CEC staff, copy promised a year ago. Nothing to date.

7.) We should all see that study soon. What is being done to implement the Renewable Tap project, if anything?

8.) At some point Sempra got wind of the Renewable Tap Project and has tried to get most or all capacity on the line for a new Sempra coal plant adjacent to the California border in NW Nevada. Sempra may or may not plan to sell to LADWP after the outcry over its Utah coal project.



New Regional Geo Working Group

Transmission Suggestions

Session 4 Notice: "A key factor in increasing energy production."

VULCAN POWER COMPANY

New Regional Geothermal Working Group Stakeholder Participants Welcome

1. CEC and CPUC and CAISO staff join geothermal developers and Green Tap public policy advocates in New Regional Geothermal Transmission Working Group along with SCE, PG&E, PacifiCorp and LADWP. Sending invitation to incoming Los Angeles mayor, council members and new commissioners.
2. Purpose of working group: three existing regional transmission upgrade projects for evaluation and staffing to agency leadership for policy determination by 9/31/05. Known long-existing constraints include: North of Lugo (PDCI), Cottonwood and Round Mountain. Includes policies dealing with CAISO boundaries, COI use and PDCI use.

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California Oregon Intertie (COI) Transmission Policy Issues

1. If COI is 4,800 MW capacity (north to south), what is appropriate renewable loading order reserve rule:

   a) 10% = 480 MW b) 20% = 960 MW c) 33% = 1,600 MW

2. Should COI renewable loading order reserve be phased to match new RPS/DWP/Muni contracts?

3. Where does CAISO control end in NP 15? Where is delivery point from California and Oregon projects delivering to California utilities:

   a) At COI?

   b) At Cal-Oregon border end of PG&E/Other lines?

   c) At Round Mountain Substation?

4. Which agency can make these policy rules and when?

   CEC-CPUC-CAISO-All three?

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Low Cost COI Option: Instead of New Lines Priority Renewable Operating Loading Order

Project Name	Power Type	Dollars in Millions				Capacity (%)	Cost Per Avg MW
		Projects		Cumulative			
		Cost	MW	Cost	MW		
4. North of Round Mountain:							
Phase I: COI Renewable Operating Loading Order Ruling							
Newberry, OR	Geo	$0	120	$0	120	95%	$0
Glass Mtn, CA	Geo	$0	120	$0	120	95%	$0
Surp Val, CA	Geo	$0	20	$0	20	95%	$0
subtotal			260		260		
Phase II: COI Renewables Operating Loading Order Ruling							
Oregon	Geo	$0	360	$0	360	95%	$0
Glass Mtn	Geo	$0	120	$0	120	95%	$0
subtotal			480		480		
TOTAL I and II			740		740		
Phase III: PDCI LaPine to Celilo to Sylmar, LADWP Contract Execution							
Newberry, OR	Geo	$0	90	$0	90	95%	$0

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Phased Transmission Suggestion

Suggestion 1: Set In-State and Neighbor State geothermal grid constraint upgrade plans in three phases for phased completion.

Phase 1: Signed Calif PPAs thru Q3, 2005 for grid upgrade completion by 2008.

Phase 2: Signed Calif PPAs thru 12/31/06 for grid upgrade completion by 2008-2009 timeframe.

Phase 3: Transmission upgrades for 2011-2020 PPA projects if 33% RPS passes for grid upgrade completion by 2011.

Suggestion 2: Set Imperial County geothermal transmission at phase I and II levels (____ MW(?))[1] supporting diversified geothermal resources with input from both Geothermal Working Groups.

Note: (1) Appropriate Imperial Valley Phase I new line size is policy decision still to be made. Perhaps 360 MW thru 2011 per earlier developer contract comments or perhaps higher, consistent with RPS and transmission diversification intents.

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Renewables Transmission Policy Request
Project Financing Suggestions

1. Vulcan project partner helped finance Path 15 upgrade.
2. Evaluate two Geothermal Working Group recommendations.
3. Establish financing plan for Phase I transmission upgrades by 12/31/05 for 2008 projects.
4. IOUs participating in RPS are logical source of transmission funding depending in part on SCE-FERC ruling. If needed, authorize-establish 3rd party projects like Path 15.
5. Consider authorizing special PDCI Green Tap Finance Authority. If necessary for Cal agency support of Green Tap, could be located just inside California border on PDCI ROW – public land.